

CLAIMS

1. Optical detector device for a meter, comprising a consumption indicator formed of a rotating target (4) and optical elements of emitting type and receiving type of which at least one lies opposite said target, whose received optical signal is processed to infer at least the number of rotations of said disc, comprising at least two said optical elements (6A, 6B) of one type and at least one said optical element (7) of the other type, characterized in that said target (4) is a portion of an opaque disc with a centre angle called a first angle ( $\gamma$ ) of between 45 and 225°, and said two optical elements of one type (6A, 6B) are emitting elements of a light beam, whose light beam is outside target (4) and in that it also comprises at least one mirror (4A, 4B) reflecting each optical beam on the pathway of the target.

2. Device as in claim 1, characterized in that said disc portion (4A) has a centre angle ( $\gamma$ ) of 180°.

20

3. Device as in either of the preceding claims, characterized in that it comprises two emitting optical elements (6A, 6B) and one receiving optical element (7).

4. Device as in claim 3, characterized in that said three optical members (6A, 6B, 7) are substantially aligned and the receiving optical element (7) is between the emitting elements (6A, 6B).

5. Device as in any of the preceding claims, characterized in that it comprises two emitting optical elements (6A', 6B'') and two receiving optical elements (7',

30

7") associated in pairs, each receiving element receiving the optical beam of the emitting element in the same pair.

6. Device as in any of the preceding claims,  
5 characterized in that the two optical emitters (6A, 6B) operate in sequentially.

7. Device as in any of the preceding claims,  
characterized in that the positioning of said optical elements  
10 (6A, 6B, 7) is such that the angle of incidence (B) of the optical beam emitted and received by the optical elements is less than  $60^\circ$ .

8. Device as in any of the preceding claims,  
15 characterized in that it comprises at least one collimator device (8) for the optical beam.

9. Device as in claim 8, characterized in that said collimator device (8) comprises slits (9) limiting stray  
20 interference between light beams.

10. Device as in any of the preceding claims, characterized in that it comprises an additional optical emitter whose trace on the disc (4) is centred on the axis of  
25 symmetry (A) of the disc, the disc (4) being provided with a reflecting zone about this axis (A).

11. Fluid meter (1) comprising a rotating disc (4) that is part of an optical detector device as in any of the  
30 preceding claims.

12. Detection module (5) intended to cooperate with a fluid meter (1) and comprising said optical elements (6A, 6B, 7) that are part of a device as in any of claims 1 to 10.

5        13. Module as in claim 12, characterized in that it also comprises an optical beam collimator device (8).